

Appendix P

Recommended Components for Bacteria and Comprehensive Load Reduction Plans

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Introduction

Dischargers will be required to submit Bacteria Load Reduction Plans (BLRPs) or Comprehensive Load Reduction Plans (CLRPs) outlining a proposed BMP program that will be capable of achieving the necessary load reductions required to attain the TMDLs in the receiving waters, acceptable to the San Diego Water Board, within 18 months after the effective date of these TMDLs.¹

The Bacteria Load Reduction Plans or Comprehensive Load Reduction Plans are the dischargers' opportunity to propose methods for assessing compliance with the water quality based effluent limitations (WQBELs) that implement the TMDLs. The monitoring components included in the BLRPs or CLRPs should be formulated according to particular compliance assessment strategies. The monitoring components are expected to be consistent with, and support whichever compliance assessment methods are proposed. The San Diego Water Board will coordinate with the dischargers during the development of their proposed monitoring components and associated compliance assessment methods to ensure that the BLRPs or CLRPs will implement actions that can achieve the assigned wasteload allocations (WLAs) or load allocations (LAs), and meet the TMDLs in the receiving waters.

The BLRPs or CLRPs should be periodically re-evaluated and revised as additional data and information are collected. The BLRPs and CLRPs should be iterative and adaptive according to assessments and any special studies.

To provide guidance to the dischargers and San Diego Water Board in preparing BLRPs and CLRPs, components that should be considered for incorporation in the BLRPs and CLRPs are given in the following BLRP and CLRP outlines. The following outlines are components that are recommended at this time, but may be augmented or modified, as needed, to ensure that the dischargers can demonstrate that the actions implemented under the BLRPs or CLRPs will achieve the WLAs, LAs, and TMDLs.

¹ The effective date is the date the Office of Administrative Law approves this Basin Plan amendment.

Bacteria Load Reduction Plan Outline

Bacteria Load Reduction Plans (BLRPs) should include the following components:

I. Comprehensive Watershed Approach

- A. Identify the Lead Watershed Contact for their BLRPs. The Lead Watershed Contact should serve as liaison between all other common watershed dischargers and the San Diego Water Board, where appropriate.
- B. Describe a program for encouraging collaborative, watershed-based, land-use planning in their jurisdictional planning departments.
- C. Develop and periodically update a map of the BLRP watershed, to facilitate planning, assessment, and collaborative decision-making. As appropriate, the map should include features such as receiving waters (including the Pacific Ocean); Clean Water Act section 303(d) impaired receiving waters; water quality projects; land uses; MS4s; major highways; jurisdictional boundaries; and inventoried commercial, industrial, and municipal sites.
- D. Periodically assess the water quality of impaired water body in their BLRPs in order to identify all water quality problems within the impaired water body. This assessment should use applicable water quality data, reports, and analysis generated in accordance with the requirements of the applicable monitoring and reporting programs, as well as applicable information available from other public and private organizations.
- E. Develop and implement a collective watershed BLRP strategy to meet the bacteria TMDL. The strategy should guide dischargers in developing a Bacteria Compliance Schedule (BCS) which includes BMP planning and scheduling as outlined below.
- F. Collaborate to develop and implement the BLRPs. The BLRP should include a proposal for frequent regularly scheduled meetings among the dischargers in the impaired watershed.
- G. Each BLRP and BCS should be reviewed periodically to identify needed modifications and improvements. The dischargers should develop and implement a plan and schedule, included in the BCS, to address the identified modifications and improvements. All updates to the BLRP should be documented in the BLRP, and submitted to the San Diego Water Board. Individual dischargers should also review and modify their jurisdictional ordinances and activities as necessary so that they are consistent with the requirements of the BLRP.

II. Bacteria Compliance Schedule - BMP Planning and Scheduling

The BCS should identify the BMPs/water quality projects that are planned for implementation and provide an implementation schedule for each BMP/water quality project.

The BCS should demonstrate how the BMPs/water quality projects will address all the bacteria TMDLs. The BCS, at a minimum, should include scheduling for the following:

A. Non-structural BMP phasing:

1. Initial Non-Structural BMP Analysis - Watershed data should be analyzed to identify effective non-structural BMPs for implementation. This should be completed and included in the BCS.
2. Scheduled Non-structural BMP Implementation - The above analysis should be used to identify BMPs that will be implemented and to develop an aggressive non-structural BMP implementation schedule. The BCS should include a schedule of the current BMP staffing for each impaired area, and provide a discussion on adjustments to staff scheduling to meet new non-structural BMP demands. Schedules should be realistic and justifiable.
3. Scheduled Periodic BMP Assessment and Optimizing Adjustments - As the nonstructural BMPs are being implemented, a scheduled in-depth assessment of the nonstructural BMPs' performance should follow. Non-structural BMPs that are found to be ineffective should be modified to incorporate optimizing adjustments to improve performance or be replaced by other effective non-structural BMPs. The results from this assessment should also be used to determine structural BMP selection and the schedule for structural BMP implementation. The BCS should include periodic schedule for in-depth non-structural BMP assessment and optimizing adjustments.
4. Scheduled Continuous Budget and Funding Efforts- Securing budget and funding for non-structural BMP staffing and equipment should be scheduled early and continue until the bacteria TMDLs are met. The BCS should include a schedule for staff time, including position and job description, authorized for securing budget and funding for non-structural BMP implementation.

B. Structural BMP phasing:

1. Scheduled Initial Structural BMP Analysis– Structural BMP analysis should utilize all available information, including the non-structural BMP assessment, to identify, locate, design and build structural BMPs, or a train of BMPs, to meet the these Bacteria TMDLs. The BCS should include a schedule for structural BMP analysis.
2. Scheduled BMP Construction - The BCS should include a projected general construction schedule with a realistic and justifiable timeline for BMP construction.
3. Scheduled Periodic BMP Assessment, Optimization Adjustments, and Maintenance - Assessment for structural BMPs should begin immediately upon initial BMP completion, followed by continuously scheduled BMP assessment, optimization adjustments, and maintenance, to both the individual structural BMPs and the

structural BMP program as a whole. The BCS should include a periodic schedule for in-depth structural BMP assessment.

4. Scheduled Continuous Budget and Funding Effort - Securing budget and funding for structural BMPs and additional maintenance staff should be scheduled early and continue until the bacteria TMDLs are met. The BCS should include a schedule for staff time, including position and job description, authorized for securing budget and funding for structural BMP implementation.

III. Reporting

Reports should be submitted periodically. Reports should assess and describe the effectiveness of implementing the Bacteria Load Reduction Plan. Effectiveness assessments should be based on a program effectiveness assessment framework, such as the one developed by the California Stormwater Quality Association (CASQA, no date). Using the CASQA framework as an example, the assessments should address the framework's outcome levels 1-5 on an annual basis, and outcome level 6 once every five years.² Methods used for assessing effectiveness should include the following or their equivalent: surveys, pollutant loading estimations, and receiving water quality monitoring. The long-term strategy should also discuss the role of monitoring data in substantiating or refining the assessment. Once WQOs have been attained, a reduced level of monitoring may be appropriate.

² Outcome level 1 assesses compliance with activity-based permit requirements. Outcome level 2 assesses changes in attitudes, knowledge, and awareness. Outcome level 3 assesses behavioral change and BMP implementation. Outcome level 4 assesses pollutant load reductions. Outcome level 5 assesses changes in urban runoff and discharge water quality. Outcome level 6 assesses changes in receiving water quality. See CASQA "An Introduction to Stormwater Program Effectiveness Assessment."

Comprehensive Load Reduction Plan Outline

Comprehensive Load Reduction Plans (CLRPs) should include the following components:

I. Comprehensive Watershed and Pollutant Approach

- A. Identify the Lead Watershed Contact for their CLRPs. The Lead Watershed Contact should serve as liaison between all other common watershed dischargers and the San Diego Water Board, where appropriate.
- B. Describe a program for encouraging collaborative, watershed-based, land-use planning in their jurisdictional planning departments.
- C. Develop and periodically update a map of the CLRP watershed, to facilitate planning, assessment, and collaborative decision-making. As appropriate, the map should include features such as receiving waters (including the Pacific Ocean); Clean Water Act section 303(d) impaired receiving waters; water quality projects; land uses; MS4s; major highways; jurisdictional boundaries; and inventoried commercial, industrial, and municipal sites.
- D. Periodically assess the water quality of impaired water body in their CLRPs in order to identify all water quality problems within the impaired water body. This assessment should use applicable water quality data, reports, and analysis generated in accordance with the requirements of the applicable NPDES MS4 monitoring and reporting programs, as well as applicable information available from other public and private organizations.
- E. Identified water quality problems in the impaired water body to be addressed by the CLRP should include, in addition to bacteria, all CWA section 303(d) listings, persistent violations of water quality standards, toxicity, impacts to beneficial uses, water quality conditions for which water quality improvement projects are currently being implemented, and any other pertinent conditions. All impaired waters should be included. Impaired water bodies where bacteria is the only impairing pollutant are not eligible to submit a CLRP.
- F. Develop and implement a collective watershed CLRP strategy to meet the bacteria TMDL and all other receiving water quality standards for all other pollutants being addressed in the CLRPs. The strategy should guide dischargers in developing a Comprehensive Compliance Schedule (CCS) which includes BMP planning and scheduling as outlined below.
- G. Collaborate to develop and implement the CLRPs. The CLRP should include a proposal for frequent regularly scheduled meetings among the dischargers in the impaired watershed.
- H. Each CLRP and CCS should be reviewed periodically to identify needed modifications and improvements. The dischargers should develop and implement a plan and schedule,

included in the CCS, to address the identified modifications and improvements. All updates to the CLRP should be documented in the CLRP, and submitted to the San Diego Water Board. Individual dischargers should also review and modify their jurisdictional ordinances and activities as necessary so that they are consistent with the requirements of the CLRP.

II. Comprehensive Compliance Schedule - BMP Planning and Scheduling

The CCS should identify the BMPs/water quality projects that are planned for implementation and provide an implementation schedule for each BMP/water quality project. The CCS should demonstrate how the BMPs/water quality projects will address all water quality problems in the impaired water body and result in achievement of water quality standards. It should also demonstrate how comprehensive treatment of all the pollutants together justifies a longer compliance schedule for the bacteria TMDLs. The CCS, at a minimum, should include scheduling for the following:

A. Non-structural BMP phasing:

1. Initial Non-Structural BMP Analysis - After identifying and listing all the 303(d) listed impairing pollutants and other water quality problems in an impaired water body, the water body and data should be analyzed to identify effective non-structural BMPs for implementation. This should be completed and included in the CCS.
2. Scheduled Non-structural BMP Implementation - The above analysis should be used to identify BMPs that will be implemented and to develop an aggressive non-structural BMP implementation schedule. The CCS should include a schedule of the current BMP staffing for each impaired area, and provide a discussion on adjustments to staff scheduling to meet new non-structural BMP demands. Schedules should be realistic and justifiable.
3. Scheduled Periodic BMP Assessment and Optimizing Adjustments - As the nonstructural BMPs are being implemented, a scheduled in-depth assessment of the nonstructural BMPs' performance should follow. Non-structural BMPs that are found to be ineffective should be modified to incorporate optimizing adjustments to improve performance or be replaced by other effective non-structural BMPs. The results from this assessment should also be used to determine structural BMP selection and the schedule for structural BMP implementation. The CCS should include an annual schedule for in-depth non-structural BMP assessment and optimizing adjustments.
4. Scheduled Continuous Budget and Funding Efforts- Securing budget and funding for non-structural BMP staffing and equipment should be scheduled early and continue until the bacteria TMDLs are met, water quality objectives for other impairing pollutants are achieved, and the goals and objectives of other water quality

improvement projects are met.³ The CCS should include a schedule for staff time, including position and job description, authorized for securing budget and funding for non-structural BMP implementation.

B. Structural BMP phasing:

1. Scheduled Initial Structural BMP Analysis– Structural BMP analysis should utilize all available information, including the non-structural BMP assessment, to identify, locate, design and build structural BMPs, or a train of BMPs, that restore water quality for all the 303(d) listed impairing pollutants and other water quality problems in an impaired water body. The CCS should include a schedule for structural BMP analysis.
2. Scheduled BMP Construction - The CCS should include a projected general construction schedule with a realistic and justifiable timeline for BMP construction.
3. Scheduled Periodic BMP Assessment, Optimization Adjustments, and Maintenance - Assessment for structural BMPs should begin immediately upon initial BMP completion, followed by continuously scheduled BMP assessment, optimization adjustments, and maintenance, to both the individual structural BMPs and the structural BMP program as a whole. The CCS should include periodic schedule for in-depth structural BMP assessment.
4. Scheduled Continuous Budget and Funding Effort - Securing budget and funding for structural BMPs and additional maintenance staff should be scheduled early and continue until the bacteria TMDLs are met, water quality objectives for other impairing pollutants are achieved, and the goals and objectives of other water quality improvement projects are met.⁴ The CCS should include a schedule for staff time, including position and job description, authorized for securing budget and funding for structural BMP implementation.

III. Economic Justifications

The dischargers should show how the estimated cost of the structural BMPs, and the opportunity to tailor BMP implementation to include all the 303(d) listed impaired water bodies, and/or other water quality improvement projects in an affected area, will require more time to fund and schedule. Cost estimates for the construction of potential structural BMPs, while general at this stage in planning, should be realistic and justifiable.

³ In this case, achieving the “water quality objectives for other impairing pollutants” means that Caltrans must meet the Receiving Water Limitations requirements of their NPDES Stormwater WDRs. These Receiving Water Limitations include an iterative process requiring implementation of increasingly stringent BMPs that will result in achievement of water quality objectives. Caltrans NPDES Stormwater WDRs also contain monitoring requirements, which can be adapted to monitor, document, and assess BMP implementation. All proposals for CLRPs must include achievement of water quality objectives in receiving waters for all impairing pollutants, by meeting NPDES Receiving Water Limitations as verified through NPDES monitoring requirements, within the CCS timeframe.

⁴ Please see footnote immediately above.

IV. Reporting

Reports should be submitted periodically. Reports should assess and describe the effectiveness of implementing the Comprehensive Load Reduction Plan. Effectiveness assessments should be based on a program effectiveness assessment framework, such as the one developed by the California Stormwater Quality Association (CASQA, no date). Using the CASQA framework as an example, the assessments should address the framework's outcome levels 1-5 on an annual basis, and outcome level 6 once every five years.⁵ Methods used for assessing effectiveness should include the following or their equivalent: surveys, pollutant loading estimations, and receiving water quality monitoring. The long-term strategy should also discuss the role of monitoring data in substantiating or refining the assessment. Once WQOs have been attained, a reduced level of monitoring may be appropriate.

⁵ Outcome level 1 assesses compliance with activity-based permit requirements. Outcome level 2 assesses changes in attitudes, knowledge, and awareness. Outcome level 3 assesses behavioral change and BMP implementation. Outcome level 4 assesses pollutant load reductions. Outcome level 5 assesses changes in urban runoff and discharge water quality. Outcome level 6 assesses changes in receiving water quality. See CASQA "An Introduction to Stormwater Program Effectiveness Assessment."